Human Computer Interaction

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Q1

a) What is the main aim of the Don Norman's Book (The Design of Everyday things) ?

Ans :

The Design of everyday things show that good, usable design is possible and to make things visible , exploit relationships and make use of constraints.

The aim is that, guide the user effortlessly to the right action on the right control at the right time.

b) Explain Deductive and Abductive reasoning with examples?

Ans :

(i)**Deductive reasoning:-**

General to particular

Derive logically necessary conclusion from given premises.

For example:-If it is Friday then he will go to work.

It is Friday.

Therefore he will go to work.

(ii)**Abductive reasoning:-**

reasoning from event to cause

For example:

Sam drives fast when drunk.

If I see Sam driving fast, assume drunk.

Logical conclusion not necessarily true:

For example: Ground is wet, If it is raining.

Ground is wet

So, it is raining **.**

Q2:

Analyze the following scenario and write down seven stages of action for given particular scenario for solution.

Scenario is:

Suppose I want to go to University, but the tyre of my car got punctured. Now I have to repair it.

You are required to write the seven stages of Gulf of Execution and Evaluation to solve the scenario.

Ans:

Stage 1:-

Deciding the Goal this is what you want. As an example, I want to go to university, but the tyre of my car got punctured. Now I have to repair it.

Stage 2

Intension to act this is what would satisfy the goal. A repaired car would satisfy my goal of reaching the university.

Stage 3

Sequence of Actions what do I have to do to achieve the intention? I would need to repair a car to meet the requirement set in my goal.

Stage 4

Executing of the Actions here I would do the steps of the action. I would repair the car.

Stage 5

Perceiving the State of the World using the senses to gather information. My repaired car would be able to move to the university.

Stage 6

Interpreting the State of the World what has changed? Punctured tyre of my car has been changed and it can move now.

Stage 7

Evaluating the Outcome did I achieve my goal? I can move towards university now without worrying. I achieved my goal.

Q3:
   a)   Differentiate slip and mistake?
   Ans :

Mistake

Mistakes are errors in choosing an objective or specifying a method of achieving it

Slip
slips are errors in carrying out an intended method for reaching an objective.

b)   Explain self perception and object perception?

Ans

Self perception

Self perception is a process by which people develop a view of themselves.

It is developed from social interaction within different groups.

Self-perception has three parts:

1. Self-concept

2. Self-esteem

3. Self-presentation

a) **Self-concept**

It refers to how someone thinks about or perceives themselves

You see yourself as a LOVEABLE and WORTHWHILE person

You feel uncertain and uncomfortable about yourself-you fear possible rejection

 Self-identity is the mental and conceptual awareness of strengths and weaknesses

b) **Self-esteem**

Emotional dimension of self-perception

Positive and negative judgments people have of themselves

People with low self-esteem tend to be unsuccessful; do not adapt well to stressful events

Those with high self-esteem have the opposite experiences

c) **Self-presentation**

Behavioral strategies people use to affect how others see them

Goals of self-presentation

Affect other people's impressions to win their approval

Increase the person's influence in a situation

Ensure that others have an accurate impression of the person.

Object perception

Depth perception is the visual ability to perceive the world in three dimensions (3D) and the distance of an object. Depth perception arises from a variety of depth cues. Monocular cues include size, lines, color, visual angles and object placement.

The best example of these object perception is painting on canvas.

Depth through overlapping object. Depth through perspective.

Q 04:-

(a)Write the steps involved in perceptual process?

Ans:-Steps involved in perceptual process is given below:

(1)The environmental stimuli

(2)The attended stimuli

(3)The image on the retina

(4)Transduction

(5)Neural processing

(6)Perception

(7)Recognization

(8)Action

(a) Differentiate between perception and recognition.

PERCEPTION:

In perception we actually perceive the stimulus object in the environment . It is at this point that we become consciously aware of stimulus.

Lets consider our example in which we imagined that you were out for morning jog in the park at the perception stage you have become aware of that there is something out on the pond to perceive.

RECOGNITION:

Perception doesn't just involve becoming consciously aware of the stimuli. It is also necessary for our brain to categorize and interpret what it is we are sensing.

It is at the recognition stage of the perceptual process that you realize that there is a duck floating on the water.

Q5:
a) A graphic designer, wants to design a 3d shape using Adobe Illustrator, he select a
   shape, apply some gradient on it and then apply drop shadow effect.
   In the given scenario in the light of interaction identify the Goal, Problem domain and the task.

Ans:

Goal

Designing 3D shape is the goal in the given scenario.

Problem Domain

Selecting and making of shape is the problem in the given scenario.

Task

The task is to selecting a shape, applying some gradient and applying drop shadow.

_____

(b) Explain Gulf of Execution and Gulf of Evaluation.

Gulf of execution

Disparity between the user's perception of the required system interactions to achieve desired goal, and the actual system interaction required to achieve goal.

Example:-Online purchase

Large gulf of execution: add item to cart, select checkout, enter shipping address, choose shipping options, enter billing address, enter payment details, accept/decline extra offers, review order, confirm order.

Small gulf of execution: Amazon's 1-Click Ordering.

Gulf of evaluation

Disparity between the user's perception (or discovery) of the system state, and the actual system state.

Example:-Copying a large number of files

Large gulf of evaluation: hourglass, spinning pinwheel, no details

Small gulf of evaluation: progress bar with listing of current file being copied, and estimated completion time.